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1 7 MAR 1959

MEMORANDUM FOR RECORD:

SUBJECT : System VII Timing Problems

1. A problem exists using System VII for telemetry signal intercept. When the signal fades out the recorder is automatically turned off. Since the System does not have a "real" time generator, a thousand cycle tone is recorded on one of the channels and the pilot makes a voice announcement giving the correct real time. If the telemetry signal fades out the recorder will turn off within 5 - 15 seconds depending on how this automatic turn off is adjusted. It is not known how long the recorder will be turned off and it is necessary that we know this time.

2. To correct this problem we propose using a System I recorder. A System I recorder may be turned on at the same time as System VII. The thousand cycle tone from System VII will be recorded on a 1-track of the Ampex 814 recorder and 2-tracks of the System I recorder. The pilot will make a voice announcement giving the time hack which will be recorded on one channel of the System VII recorder and one channel of the System I recorder. If a telemetry signal fade out occurs only the System VII recorder will be turned off. At the same time the thousand cycle tone on 1 of the 2 channels of the continuously running System I recorder will be interrupted. When the telemetry signal is again intercepted the System VII recorder will turn on and the thousand cycle tone will again be recorded on both channels of the System I recorder. Therefore, from this interrupted portion of the thousand cycle tone on the System I recorder it will be possible to calculate the length of time the System VII recorder has been turned off.

3. This subject has been discussed with _____ and _____ DPD/DDP. The System I recorder will be installed in the cheek area of the aircraft and the necessary minor modifications will be performed at Edwards Air Force Base.

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4. The normal SOP for the pilot should be as follows:

a. When the light goes on indicating telemetry intercept the pilot will make a voice announcement giving

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the time hack to the nearest second.

b. If there is enough time when the light comes
on again the pilot will give another time hack al-
though this is not absolutely necessary. It is neces-
sary though that we have at least one time hack on
the tape in order to convert the relative time to
real time.

/s/

ELINT Staff

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Distribution:
  Copy 1 - _____
       2 - Project Chrono
       3 - Mr. Bussler

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_____ ang (17 Mar 59)

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